

## SEQUENCE LISTING

<110> Bennett, Michele  
Brodbeck, Robbin  
Krause, James

<120> Chimeric Neuropeptide Y Receptors

<130> N2000.001

<140> Not Yet Assigned

<141> 2000-01-28

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<170> PatentIn Ver. 2.1

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| Thr        | Phe        | Val        | Tyr<br>100 | Thr        | Leu        | Met        | Asp        | His<br>105 | Trp        | Val        | Phe        | Gly        | Glu<br>110 | Ala        | Met        |
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| Lys        | Asp        | Lys<br>195 | Tyr        | Val        | Cys        | Phe        | Asp<br>200 | Gln        | Phe        | Pro        | Ser        | Asp<br>205 | Ser        | His        | Arg        |
| Leu        | Ser<br>210 | Tyr        | Thr        | Thr        | Leu        | Leu<br>215 | Leu        | Val        | Leu        | Gln        | Tyr<br>220 | Phe        | Gly        | Pro        | Leu        |
| Cys<br>225 | Phe        | Ile        | Phe        | Ile        | Cys<br>230 | Tyr        | Phe        | Lys        | Ile        | Tyr<br>235 | Ile        | Arg        | Leu        | Lys        | Arg<br>240 |
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| Glu        | Thr        | Lys        | Arg<br>260 | Ile        | Asn        | Ile        | Met        | Leu<br>265 | Leu        | Ser        | Ile        | Val        | Val<br>270 | Ala        | Phe        |
| Ala        | Val        | Cys<br>275 | Trp        | Leu        | Pro        | Leu        | Thr<br>280 | Ile        | Phe        | Asn        | Thr        | Val<br>285 | Phe        | Asp        | Trp        |
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|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Phe | Ile | Phe | Ile | Cys | Tyr | Phe | Lys | Ile | Tyr | Ile | Arg | Leu | Lys | Arg | Arg |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Val | Cys | Trp | Leu | Pro | Leu | Thr | Ile | Phe | Asn | Thr | Val | Phe | Asp | Trp | Asn |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| His | Gln | Ile | Ile | Ala | Thr | Cys | Asn | His | Asn | Leu | Leu | Phe | Leu | Leu | Cys |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| His | Leu | Thr | Ala | Met | Ile | Ser | Thr | Cys | Val | Asn | Pro | Ile | Phe | Tyr | Gly |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Phe | Leu | Asn | Lys | Asn | Phe | Gln | Arg | Asp | Leu | Gln | Phe | Phe | Phe | Asn | Phe |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Thr | Met | His | Thr | Asp | Val | Ser | Lys | Thr | Ser | Leu | Lys | Gln | Ala | Ser | Pro |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| cagaagaaga  | tatagcaaga  | agacagcatg | tgtgttacct | gtccagaaa  | gaccttctca | 960  |
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| tgttttctac  | agactgacca  | tactgatatt | agtatttgc  | gttagttgga | tgccactaca | 1200 |
| ccttttccat  | gtggttaactg | attttaatga | caatcttatt | tcaaataggc | atttcaagtt | 1260 |
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| tgggtttctt  | aataatggga  | ttaaagctga | tttagtgtcc | cttatacact | gtcttcatat | 1380 |
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<223> Description of Artificial Sequence:Y5/Y1 CHIMERA

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| tgatttccca  | gtctgggatg | actataaaag  | cagtgtagat | gacttacagt | attttctgat | 180  |
| tgggctctat  | acatttgtaa | gtcttcttgg  | ctttatgggg | aatctactta | ttttaatggc | 240  |
| tctcatgaaa  | aagcgtaatc | agaagactac  | ggtaaaactc | ctcataggca | atctggcctt | 300  |
| ttctgatatc  | ttggttgtgc | tgttttgcct  | acctttcaca | ctgacgtctg | tcttgcctga | 360  |
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| tcccatatct  | aataatttaa | cagcaaacca  | tggctacttt | ctgatagcta | ctgtctggac | 540  |
| actaggtttt  | gccatctgtt | ctcccccttc  | agtgtttcac | agtcttgtgg | aacttcaaga | 600  |
| aacatttggg  | tcagcattgc | tgagcagcag  | gtatttatgt | gttgagtcac | ggccatctga | 660  |
| ttcatcacaga | attgccttta | ctatctcttt  | attgctagtt | cagtatatct | tgcccttagt | 720  |
| ttgtcttact  | gtaagtcata | caagtgtctg  | catacgcta  | aaaaggagaa | acaacatgat | 780  |
| ggacaagatg  | agagacaata | agtacaggct  | cagtagatct | cgaagtgttt | tctacagact | 840  |
| gaccatactg  | atattagtat | ttgctgttag  | ttggatgcca | ctacaccttt | tccatgtggg | 900  |
| aactgatttt  | aatgacaatc | ttattttcaa  | taggcatttc | aagttgggtg | attgcatttg | 960  |
| tcatttgggt  | ggcatgatgt | cctgttgtct  | taatccaatt | ctatatgggt | ttcttaataa | 1020 |
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<223> Description of Artificial Sequence:Y5/Y1 CHIMERA

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Glu | Tyr | Tyr | Asn | Lys | Thr | Leu | Ala | Thr | Glu | Asn | Asn | Thr | Ala | Ala | Thr |  |
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| Arg | Asn | Ser | Asp | Phe | Pro | Val | Trp | Asp | Asp | Tyr | Lys | Ser | Ser | Val | Asp |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
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|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Gly | Phe | Met | Gly | Asn | Leu | Leu | Ile | Leu | Met | Ala | Leu | Met | Lys | Lys | Arg |  |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Asn | Gln | Lys | Thr | Thr | Val | Asn | Phe | Leu | Ile | Gly | Asn | Leu | Ala | Phe | Ser |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Asp | Ile | Leu | Val | Val | Leu | Phe | Cys | Ser | Pro | Phe | Thr | Leu | Thr | Ser | Val |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |  |
| Leu | Leu | Asp | Gln | Trp | Met | Phe | Gly | Lys | Val | Met | Cys | His | Ile | Met | Pro |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Phe | Leu | Gln | Cys | Val | Ser | Val | Leu | Val | Ser | Thr | Leu | Ile | Leu | Ile | Ser |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Ile | Ala | Ile | Val | Arg | Tyr | His | Met | Ile | Lys | His | Pro | Ile | Ser | Asn | Asn |  |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Leu | Thr | Ala | Asn | His | Gly | Tyr | Phe | Leu | Ile | Ala | Thr | Val | Trp | Thr | Leu |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| Gly | Phe | Ala | Ile | Cys | Ser | Pro | Leu | Pro | Val | Phe | His | Ser | Leu | Val | Glu |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Leu | Gln | Glu | Thr | Phe | Gly | Ser | Ala | Leu | Leu | Ser | Ser | Arg | Tyr | Leu | Cys |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Val | Glu | Ser | Trp | Pro | Ser | Asp | Ser | Tyr | Arg | Ile | Ala | Phe | Thr | Ile | Ser |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| Leu | Leu | Leu | Val | Gln | Tyr | Ile | Leu | Pro | Leu | Val | Cys | Leu | Thr | Val | Ser |  |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| His | Thr | Ser | Val | Cys | Ile | Arg | Leu | Lys | Arg | Arg | Asn | Asn | Met | Met | Asp |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| Lys | Met | Arg | Asp | Asn | Lys | Tyr | Arg | Ser | Ser | Arg | Ser | Arg | Ser | Val | Phe |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Tyr | Arg | Leu | Thr | Ile | Leu | Ile | Leu | Val | Phe | Ala | Val | Ser | Trp | Met | Pro |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| Leu | His | Leu | Phe | His | Val | Val | Thr | Asp | Phe | Asn | Asp | Asn | Leu | Ile | Ser |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |
| Asn | Arg | His | Phe | Lys | Leu | Val | Tyr | Cys | Ile | Cys | His | Leu | Leu | Gly | Met |  |
|     | 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |

Leu Thr Ala Asn His Gly Tyr Phe Leu Ile Ala Thr Val Trp Thr Leu  
 165 170 175  
 Gly Phe Ala Ile Cys Ser Pro Leu Pro Val Phe His Ser Leu Val Glu  
 180 185 190  
 Leu Gln Glu Thr Phe Gly Ser Ala Leu Leu Ser Ser Arg Tyr Leu Cys  
 195 200 205  
 Val Glu Ser Trp Pro Ser Asp Ser Tyr Arg Ile Ala Phe Thr Ile Ser  
 210 215 220  
 Leu Leu Leu Val Gln Tyr Ile Leu Pro Leu Val Cys Leu Thr Val Ser  
 225 230 235 240  
 His Thr Ser Val Cys Arg Ser Ile Ser Cys Gly Leu Ser Asn Lys Glu  
 245 250 255  
 Asn Arg Leu Glu Glu Asn Glu Met Ile Asn Leu Thr Leu His Pro Ser  
 260 265 270  
 Lys Lys Ser Gly Pro Gln Val Lys Leu Ser Gly Ser His Lys Trp Ser  
 275 280 285  
 Tyr Ser Phe Ile Lys Lys His Arg Arg Arg Tyr Ser Lys Lys Thr Ala  
 290 295 300  
 Cys Val Leu Pro Ala Pro Glu Arg Pro Ser Gln Glu Asn His Ser Arg  
 305 310 315 320  
 Ile Leu Pro Glu Asn Phe Gly Ser Val Arg Ser Gln Leu Ser Ser Ser  
 325 330 335  
 Ser Lys Phe Ile Pro Gly Val Pro Thr Cys Phe Glu Ile Lys Pro Glu  
 340 345 350  
 Glu Asn Ser Asp Val His Glu Leu Arg Val Lys Arg Ser Val Thr Arg  
 355 360 365  
 Ile Lys Lys Arg Ser Arg Ser Val Phe Tyr Arg Leu Thr Ile Leu Ile  
 370 375 380  
 Leu Val Phe Ala Val Ser Trp Met Pro Leu His Leu Phe His Val Val  
 385 390 395 400  
 Thr Asp Phe Asn Asp Asn Leu Ile Ser Asn Arg His Phe Lys Leu Val  
 405 410 415  
 Tyr Cys Ile Cys His Leu Leu Gly Met Met Ser Cys Cys Leu Asn Pro  
 420 425 430  
 Ile Leu Tyr Gly Phe Leu Asn Asn Gly Ile Gln Arg Asp Leu Gln Phe  
 435 440 445  
 Phe Phe Asn Phe Cys Asp Phe Arg Ser Arg Asp Asp Asp Tyr Glu Thr  
 450 455 460

Ile Ala Met Ser Thr Met His Thr Asp Val Ser Lys Thr Ser Leu Lys  
465 470 475 480

Gln Ala Ser Pro Val Ala Phe Lys Lys Ile Asn Asn Asn Asp Asp Asn  
485 490 495

Glu Lys Ile

<210> 10

<211> 394

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Y5/Y1 CHIMERA

<400> 10

Met Ser Phe Tyr Ser Lys Gln Asp Tyr Asn Met Asp Leu Glu Leu Asp  
1 5 10 15

Glu Tyr Tyr Asn Lys Thr Leu Ala Thr Glu Asn Asn Thr Ala Ala Thr  
20 25 30

Arg Asn Ser Asp Phe Pro Val Trp Asp Asp Tyr Lys Ser Ser Val Asp  
35 40 45

Asp Leu Gln Tyr Phe Leu Ile Gly Leu Tyr Thr Phe Val Ser Leu Leu  
50 55 60

Gly Phe Met Gly Asn Leu Leu Ile Leu Met Ala Leu Met Lys Lys Arg  
65 70 75 80

Asn Gln Lys Thr Thr Val Asn Phe Leu Ile Gly Asn Leu Ala Phe Ser  
85 90 95

Asp Ile Leu Val Val Leu Phe Cys Ser Pro Phe Thr Leu Thr Ser Val  
100 105 110

Leu Leu Asp Gln Trp Met Phe Gly Lys Val Met Cys His Ile Met Pro  
115 120 125

Phe Leu Gln Cys Val Ser Val Leu Val Ser Thr Leu Ile Leu Ile Ser  
130 135 140

Ile Ala Ile Val Arg Tyr His Met Ile Lys His Pro Ile Ser Asn Asn  
145 150 155 160

Leu Thr Ala Asn His Gly Tyr Phe Leu Ile Ala Thr Val Trp Thr Leu  
165 170 175

Gly Phe Ala Ile Cys Ser Pro Leu Pro Val Phe His Ser Leu Val Glu  
180 185 190

Leu Gln Glu Thr Phe Gly Ser Ala Leu Leu Ser Ser Arg Tyr Leu Cys



| 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Glu | Ser | Trp | Pro | Ser | Asp | Ser | Tyr | Arg | Ile | Ala | Phe | Thr | Ile | Ser |
| 210 |     |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Leu | Leu | Val | Gln | Tyr | Ile | Leu | Pro | Leu | Val | Cys | Leu | Thr | Val | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| His | Thr | Ser | Val | Cys | Ile | Arg | Leu | Lys | Arg | Arg | Asn | Asn | Met | Met | Asp |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Lys | Met | Arg | Asp | Asn | Lys | Tyr | Arg | Ser | Ser | Arg | Ser | Arg | Ser | Val | Phe |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |
| Tyr | Arg | Leu | Thr | Ile | Leu | Ile | Leu | Val | Phe | Ala | Val | Ser | Trp | Met | Pro |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Leu | His | Leu | Phe | His | Val | Val | Thr | Asp | Phe | Asn | Asp | Asn | Leu | Ile | Ser |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Asn | Arg | His | Phe | Lys | Leu | Val | Tyr | Cys | Ile | Cys | His | Leu | Leu | Gly | Met |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Met | Ser | Cys | Cys | Leu | Asn | Pro | Ile | Leu | Tyr | Gly | Phe | Leu | Asn | Asn | Gly |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ile | Gln | Arg | Asp | Leu | Gln | Phe | Phe | Phe | Asn | Phe | Cys | Asp | Phe | Arg | Ser |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     |     | 350 |     |
| Arg | Asp | Asp | Asp | Tyr | Glu | Thr | Ile | Ala | Met | Ser | Thr | Met | His | Thr | Asp |
|     |     |     | 355 |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Val | Ser | Lys | Thr | Ser | Leu | Lys | Gln | Ala | Ser | Pro | Val | Ala | Phe | Lys | Lys |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Ile | Asn | Asn | Asn | Asp | Asp | Asn | Glu | Lys | Ile |     |     |     |     |     |     |
| 385 |     |     |     |     | 390 |     |     |     |     |     |     |     |     |     |     |

<210> 11  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:HEXAHISTADINE  
 TAG

<400> 11  
 His His His His His His  
 1 5

<210> 12  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:FLAG EPITOPE  
TAG

<400> 12

Asp Tyr Lys Asp Asp Asp Lys  
1 5

<210> 13

<211> 455

<212> PRT

<213> Homo sapiens

<400> 13

Met Ser Phe Tyr Ser Lys Gln Asp Tyr Asn Met Asp Leu Glu Leu Asp  
1 5 10 15

Glu Tyr Tyr Asn Lys Thr Leu Ala Thr Glu Asn Asn Thr Ala Ala Thr  
20 25 30

Arg Asn Ser Asp Phe Pro Val Trp Asp Asp Tyr Lys Ser Ser Val Asp  
35 40 45

Asp Leu Gln Tyr Phe Leu Ile Gly Leu Tyr Thr Phe Val Ser Leu Leu  
50 55 60

Gly Phe Met Gly Asn Leu Leu Ile Leu Met Ala Leu Met Lys Lys Arg  
65 70 75 80

Asn Gln Lys Thr Thr Val Asn Phe Leu Ile Gly Asn Leu Ala Phe Ser  
85 90 95

Asp Ile Leu Val Val Leu Phe Cys Ser Pro Phe Thr Leu Thr Ser Val  
100 105 110

Leu Leu Asp Gln Trp Met Phe Gly Lys Val Met Cys His Ile Met Pro  
115 120 125

Phe Leu Gln Cys Val Ser Val Leu Val Ser Thr Leu Ile Leu Ile Ser  
130 135 140

Ile Ala Ile Val Arg Tyr His Met Ile Lys His Pro Ile Ser Asn Asn  
145 150 155 160

Leu Thr Ala Asn His Gly Tyr Phe Leu Ile Ala Thr Val Trp Thr Leu  
165 170 175

Gly Phe Ala Ile Cys Ser Pro Leu Pro Val Phe His Ser Leu Val Glu  
180 185 190

Leu Gln Glu Thr Phe Gly Ser Ala Leu Leu Ser Ser Arg Tyr Leu Cys  
195 200 205

Val Glu Ser Trp Pro Ser Asp Ser Tyr Arg Ile Ala Phe Thr Ile Ser  
210 215 220

Leu Leu Leu Val Gln Tyr Ile Leu Pro Leu Val Cys Leu Thr Val Ser  
 225 230 235 240  
 His Thr Ser Val Cys Arg Ser Ile Ser Cys Gly Leu Ser Asn Lys Glu  
 245 250 255  
 Asn Arg Leu Glu Glu Asn Glu Met Ile Asn Leu Thr Leu His Pro Ser  
 260 265 270  
 Lys Lys Ser Gly Pro Gln Val Lys Leu Ser Gly Ser His Lys Trp Ser  
 275 280 285  
 Tyr Ser Phe Ile Lys Lys His Arg Arg Arg Tyr Ser Lys Lys Thr Ala  
 290 295 300  
 Cys Val Leu Pro Ala Pro Glu Arg Pro Ser Gln Glu Asn His Ser Arg  
 305 310 315 320  
 Ile Leu Pro Glu Asn Phe Gly Ser Val Arg Ser Gln Leu Ser Ser Ser  
 325 330 335  
 Ser Lys Phe Ile Pro Gly Val Pro Thr Cys Phe Glu Ile Lys Pro Glu  
 340 345 350  
 Glu Asn Ser Asp Val His Glu Leu Arg Val Lys Arg Ser Val Thr Arg  
 355 360 365  
 Ile Lys Lys Arg Ser Arg Ser Val Phe Tyr Arg Leu Thr Ile Leu Ile  
 370 375 380  
 Leu Val Phe Ala Val Ser Trp Met Pro Leu His Leu Phe His Val Val  
 385 390 395 400  
 Thr Asp Phe Asn Asp Asn Leu Ile Ser Asn Arg His Phe Lys Leu Val  
 405 410 415  
 Tyr Cys Ile Cys His Leu Leu Gly Met Met Ser Cys Cys Leu Asn Pro  
 420 425 430  
 Ile Leu Tyr Gly Phe Leu Asn Asn Gly Ile Lys Ala Asp Leu Val Ser  
 435 440 445  
 Leu Ile His Cys Leu His Met  
 450 455

<210> 14  
 <211> 21  
 <212> DNA  
 <213> Homo sapiens

<400> 14  
 ttttggttgc tgacaaatgt c

<210> 15

<211> 26  
<212> DNA  
<213> Homo sapiens

<400> 15  
ccttggtaaa cagtgagaat tattac

26

<210> 16  
<211> 63  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:CHIMERIC Y1/Y5  
PRIMER

<400> 16  
tacgcctaaa aaggagaaac aacatgatgg acaagatgag agacaataag tacaggtcca 60  
gta 63

<210> 17  
<211> 71  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:CHIMERIC Y1/Y5  
PRIMER

<400> 17  
gatctactgg acctgtactt attgtctctc atcttgtcca tcatgttggt tctccttttt 60  
aggcgtatgc a 71

<210> 18  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:MUTAGENIC R1  
PRIMER

<400> 18  
gaacaaaaga attcagagag acttgcagtt c

31

<210> 19  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:MUTAGENIC R1  
PRIMER

<400> 19  
cagcttgaat tccattatta agaaaccc

28

<210> 20  
<211> 341  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Y1/Y5 CHIMERA

<400> 20  
Met Asp Leu Glu Leu Gln Asp Phe Tyr Asn Lys Thr Leu Ala Thr Glu  
1 5 10 15  
Asn Asn Thr Ala Ala Thr Arg Asn Ser Asp Phe Pro Val Trp Asp Asp  
20 25 30  
Tyr Lys Ser Ser Val Asp Asp Leu Gln Tyr Phe Leu Ile Gly Leu Tyr  
35 40 45  
Thr Phe Val Ser Leu Leu Gly Phe Met Gly Asn Leu Leu Ile Leu Met  
50 55 60  
Ala Leu Met Arg Lys Arg Asn Gln Lys Thr Met Val Asn Phe Leu Ile  
65 70 75 80  
Gly Asn Leu Ala Phe Ser Asp Ile Leu Val Val Leu Phe Cys Ser Pro  
85 90 95  
Phe Thr Leu Thr Ser Val Leu Leu Asp Gln Trp Met Phe Gly Lys Val  
100 105 110  
Met Cys His Ile Met Pro Phe Leu Gln Cys Val Ser Val Leu Val Ser  
115 120 125  
Thr Leu Ile Leu Ile Ser Ile Ala Ile Val Arg Tyr His Met Ile Lys  
130 135 140  
His Pro Ile Ser Asn Asn Leu Thr Ala Asn His Gly Tyr Phe Leu Ile  
145 150 155 160  
Ala Thr Val Trp Thr Leu Gly Phe Ala Ile Cys Ser Pro Leu Pro Val  
165 170 175  
Phe His Ser Leu Val Glu Leu Gln Glu Thr Phe Asp Ser Ala Leu Leu  
180 185 190  
Ser Ser Arg Tyr Leu Cys Val Glu Ser Trp Pro Ser Asp Ser Tyr Arg  
195 200 205  
Ile Ala Phe Thr Ile Ser Leu Leu Leu Val Gln Tyr Ile Leu Pro Leu  
210 215 220  
Val Cys Leu Thr Val Ser His Thr Ser Val Cys Ile Arg Leu Lys Arg

|                 |                 |                         |                 |     |  |     |
|-----------------|-----------------|-------------------------|-----------------|-----|--|-----|
| 225             |                 | 230                     |                 | 235 |  | 240 |
| Arg Asn Asn Met | Met Asp Lys Met | Arg Asp Asn Lys Tyr Arg | Ser Ser         |     |  |     |
|                 | 245             | 250                     | 255             |     |  |     |
| Arg Ser Arg Ser | Val Phe Tyr Arg | Leu Thr Ile Leu Ile     | Leu Val Phe     |     |  |     |
|                 | 260             | 265                     | 270             |     |  |     |
| Ala Val Ser Trp | Met Pro Leu His | Leu Phe His Val         | Val Thr Asp Phe |     |  |     |
|                 | 275             | 280                     | 285             |     |  |     |
| Asn Asp Asn Leu | Ile Ser Asn Arg | His Phe Lys Leu         | Val Tyr Cys Ile |     |  |     |
|                 | 290             | 295                     | 300             |     |  |     |
| Cys His Leu Leu | Gly Met Met Ser | Cys Cys Leu Asn         | Pro Ile Leu Tyr |     |  |     |
| 305             | 310             | 315                     | 320             |     |  |     |
| Gly Phe Leu Asn | Asn Gly Ile Lys | Ala Asp Leu Ile         | Ser Leu Ile Gln |     |  |     |
|                 | 325             | 330                     | 335             |     |  |     |
| Cys Leu His Met | Ser             |                         |                 |     |  |     |
|                 | 340             |                         |                 |     |  |     |

<210> 21  
 <211> 383  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Y1/Y5 CHIMERA

<400> 21  
 Met Asp Leu Glu Leu Gln Asp Phe Tyr Asn Lys Thr Leu Ala Thr Glu  
 1 5 10 15  
 Asn Asn Thr Ala Ala Thr Arg Asn Ser Asp Phe Pro Val Trp Asp Asp  
 20 25 30  
 Tyr Lys Ser Ser Val Asp Asp Leu Gln Tyr Phe Leu Ile Gly Leu Tyr  
 35 40 45  
 Thr Phe Val Ser Leu Leu Gly Phe Met Gly Asn Leu Leu Ile Leu Met  
 50 55 60  
 Ala Leu Met Arg Lys Arg Asn Gln Lys Thr Met Val Asn Phe Leu Ile  
 65 70 75 80  
 Gly Asn Leu Ala Phe Ser Asp Ile Leu Val Val Leu Phe Cys Ser Pro  
 85 90 95  
 Phe Thr Leu Thr Ser Val Leu Leu Asp Gln Trp Met Phe Gly Lys Val  
 100 105 110  
 Met Cys His Ile Met Pro Phe Leu Gln Cys Val Ser Val Leu Val Ser  
 115 120 125

Met Ser Cys Cys Leu Asn Pro Ile Leu Tyr Gly Phe Leu Asn Asn Gly  
 325 330 335

Ile Lys Ala Asp Leu Val Ser Leu Ile His Cys Leu His Met  
 340 345 350

<210> 7  
 <211> 1500  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Y5/Y1 CHIMERA

<400> 7  
 atgtcttttt attccaagca ggactataat atggatttag agctcgacga gtattataac 60  
 aagacacttg ccacagagaa taatactgct gccactcgga attctgattt cccagtctgg 120  
 gatgactata aaagcagtgat agatgactta cagtattttc tgattgggct ctatacattt 180  
 gtaagtcttc ttggctttat ggggaatcta cttattttta tggctctcat gaaaaagcgt 240  
 aatcagaaga ctacggtaaa cttcctcata ggcaatctgg ctttttctga tatcttgggt 300  
 gtgctgtttt gctcaccttt cacactgaag tctgtcttgc tggatcagtg gatgtttggc 360  
 aaagtcattg gccatattat gccttttctt caatgtgtgt cagttttggg ttcaacttta 420  
 attttaatat caattgccat tgtcagggtat catatgataa aacatcccat atctaataat 480  
 ttaacagcaa accatggcta ctttctgata gctactgtct ggacactagg ttttgccatc 540  
 tgttctcccc ttccagtgtt tcacagtctt gtggaacttc aagaaacatt tggttcagca 600  
 ttgctgagca gcagggtatt atgtgttgag tcatggccat ctgattcata cagaattgcc 660  
 tttactatct ctttattgct agttcagtat attctgccct tagtttgtct tactgtaagt 720  
 catacaagtg tctgcagaag tataagctgt ggattgtcca acaaagaaaa cagacttgaa 780  
 gaaaatgaga tgatcaactt aactcttcat ccatacaaaa agagtgggcc tcagggtgaa 840  
 ctctctggca gccataaatg gagttattca ttcatacaaaa aacacagaag aagatatagc 900  
 aagaagacag catgtgtgtt acctgtctca gaaagacctt ctcaagagaa ccaactccaga 960  
 atacttccag aaaacttttg ctctgtaaga agtcagctct cttcatccag taagttcata 1020  
 ccagggtcc cacttggctt tgagataaaa cctgaagaaa attcagatgt tcatgaattg 1080  
 agagtaaaac gttctgttac aagaataaaa aagagatctc gaagtgtttt ctacagactg 1140  
 accatactga tattagtatt tgctgttagt tggatgccac tacacctttt ccatgtggta 1200  
 actgatttta atgacaatct tatttcaaag aggcatttca agttgggtga ttgcatttgt 1260  
 catttgttgg gcatgatgtc ctgttgtctt aatccaattc tatatgggtt tcttaataat 1320  
 ggaattcaga gagacttgca gttcttcttc aacttttgtg atttcgggtc tcgggatgat 1380  
 gattatgaaa caatagccat gtccaagatg cacacagatg tttccaaaac ttctttgaag 1440  
 caagcaagcc cagtcgcatt taaaaaaatc aacaacaatg atgataatga aaaaatctga 1500

<210> 8  
 <211> 1201  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Y5/Y1 CHIMERA

<400> 8  
 ttttgggtgc tgacaaatgt ctttttattc caagcaggac tataatatgg atttagagct 60  
 cgacgagtat tataacaaga cacttgccac agagaataat actgctgcca ctcggaattc 120  
 tgatttccca gtctgggatg actataaaaag cagtgtatag gacttacagt attttctgat 180  
 tgggctctat acatttgtaa gtcttcttgg ctttatgggg aatctactta ttttaattgc 240

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Thr Leu Ile Leu Ile Ser Ile Ala Ile Val Arg Tyr His Met Ile Lys
130                      135                      140

His Pro Ile Ser Asn Asn Leu Thr Ala Asn His Gly Tyr Phe Leu Ile
145                      150                      155                      160

Ala Thr Val Trp Thr Leu Gly Phe Ala Ile Cys Ser Pro Leu Pro Val
165                      170                      175

Phe His Ser Leu Val Glu Leu Gln Glu Thr Phe Asp Ser Ala Leu Leu
180                      185                      190

Ser Ser Arg Tyr Leu Cys Val Glu Ser Trp Pro Ser Asp Ser Tyr Arg
195                      200                      205

Ile Ala Phe Thr Ile Ser Leu Leu Leu Val Gln Tyr Ile Leu Pro Leu
210                      215                      220

Val Cys Leu Thr Val Ser His Thr Ser Val Cys Ile Arg Leu Lys Arg
225                      230                      235                      240

Arg Asn Asn Met Met Asp Lys Met Arg Asp Asn Lys Tyr Arg Ser Ser
245                      250                      255

Arg Ser Arg Ser Val Phe Tyr Arg Leu Thr Ile Leu Ile Leu Val Phe
260                      265                      270

Ala Val Ser Trp Met Pro Leu His Leu Phe His Val Val Thr Asp Phe
275                      280                      285

Asn Asp Asn Leu Ile Ser Asn Arg His Phe Lys Leu Val Tyr Cys Ile
290                      295                      300

Cys His Leu Leu Gly Met Met Ser Cys Cys Leu Asn Pro Ile Leu Tyr
305                      310                      315                      320

Gly Phe Leu Asn Asn Gly Ile Gln Arg Asp Leu Gln Phe Phe Phe Asn
325                      330                      335

Phe Cys Asp Phe Arg Ser Arg Asp Asp Asp Tyr Glu Thr Ile Ala Met
340                      345                      350

Ser Thr Met His Thr Asp Val Ser Lys Thr Ser Leu Lys Gln Ala Ser
355                      360                      365

Pro Val Ala Phe Lys Lys Ile Asn Asn Asp Asp Asn Glu Lys Ile
370                      375                      380

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<210> 22

<211> 508

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Y1/Y5 CHIMERA



|  | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 | 2049 | 2050 | 2051 | 2052 | 2053 | 2054 | 2055 | 2056 | 2057 | 2058 | 2059 | 2060 | 2061 | 2062 | 2063 | 2064 | 2065 | 2066 | 2067 | 2068 | 2069 | 2070 | 2071 | 2072 | 2073 | 2074 | 2075 | 2076 | 2077 | 2078 | 2079 | 2080 | 2081 | 2082 | 2083 | 2084 | 2085 | 2086 | 2087 | 2088 | 2089 | 2090 | 2091 | 2092 | 2093 | 2094 | 2095 | 2096 | 2097 | 2098 | 2099 | 2100 | 2101 | 2102 | 2103 | 2104 | 2105 | 2106 | 2107 | 2108 | 2109 | 2110 | 2111 | 2112 | 2113 | 2114 | 2115 | 2116 | 2117 | 2118 | 2119 | 2120 | 2121 | 2122 | 2123 | 2124 | 2125 | 2126 | 2127 | 2128 | 2129 | 2130 | 2131 | 2132 | 2133 | 2134 | 2135 | 2136 | 2137 | 2138 | 2139 | 2140 | 2141 | 2142 | 2143 | 2144 | 2145 | 2146 | 2147 | 2148 | 2149 | 2150 | 2151 | 2152 | 2153 | 2154 | 2155 | 2156 | 2157 | 2158 | 2159 | 2160 | 2161 | 2162 | 2163 | 2164 | 2165 | 2166 | 2167 | 2168 | 2169 | 2170 | 2171 | 2172 | 2173 | 2174 | 2175 | 2176 | 2177 | 2178 | 2179 | 2180 | 2181 | 2182 | 2183 | 2184 | 2185 | 2186 | 2187 | 2188 | 2189 | 2190 | 2191 | 2192 | 2193 | 2194 | 2195 | 2196 | 2197 | 2198 | 2199 | 2200 | 2201 | 2202 | 2203 | 2204 | 2205 | 2206 | 2207 | 2208 | 2209 | 2210 | 2211 | 2212 | 2213 | 2214 | 2215 | 2216 | 2217 | 2218 | 2219 | 2220 | 2221 | 2222 | 2223 | 2224 | 2225 | 2226 | 2227 | 2228 | 2229 | 2230 | 2231 | 2232 | 2233 | 2234 | 2235 | 2236 | 2237 | 2238 | 2239 | 2240 | 2241 | 2242 | 2243 | 2244 | 2245 | 2246 | 2247 | 2248 | 2249 | 2250 | 2251 | 2252 | 2253 | 2254 | 2255 | 2256 | 2257 | 2258 | 2259 | 2260 | 2261 | 2262 | 2263 | 2264 | 2265 | 2266 | 2267 | 2268 | 2269 | 2270 | 2271 | 2272 | 2273 | 2274 | 2275 | 2276 | 2277 | 2278 | 2279 | 2280 | 2281 | 2282 | 2283 | 2284 | 2285 | 2286 | 2287 | 2288 | 2289 | 2290 | 2291 | 2292 | 2293 | 2294 | 2295 | 2296 | 2297 | 2298 | 2299 | 2300 | 2301 | 2302 | 2303 | 2304 | 2305 | 2306 | 2307 | 2308 | 2309 | 2310 | 2311 | 2312 | 2313 | 2314 | 2315 | 2316 | 2317 | 2318 | 2319 | 2320 | 2321 | 2322 | 2323 | 2324 | 2325 | 2326 | 2327 | 2328 | 2329 | 2330 | 2331 | 2332 | 2333 | 2334 | 2335 | 2336 | 2337 | 2338 | 2339 | 2340 | 2341 | 2342 | 2343 | 2344 | 2345 | 2346 | 2347 | 2348 | 2349 | 2350 | 2351 | 2352 | 2353 | 2354 | 2355 | 2356 | 2357 | 2358 | 2359 | 2360 | 2361 | 2362 | 2363 | 2364 | 2365 | 2366 | 2367 | 2368 | 2369 | 2370 | 2371 | 2372 | 2373 | 2374 | 2375 | 2376 | 2377 | 2378 | 2379 | 2380 | 2381 | 2382 | 2383 | 2384 | 2385 | 2386 | 2387 | 2388 | 2389 | 2390 | 2391 | 2392 | 2393 | 2394 | 2395 | 2396 | 2397 | 2398 | 2399 | 2400 | 2401 | 2402 | 2403 | 2404 | 2405 | 2406 | 2407 | 2408 | 2409 | 2410 | 2411 | 2412 | 2413 | 2414 | 2415 | 2416 | 2417 | 2418 | 2419 | 2420 | 2421 | 2422 | 2423 | 2424 | 2425 | 2426 | 2427 | 2428 | 2429 | 2430 | 2431 | 2432 | 2433 | 2434 | 2435 | 2436 | 2437 | 2438 | 2439 | 2440 | 2441 | 2442 | 2 |
|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---|
|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---|

|            |            |            |            |           |            |            |            |            |            |           |            |            |            |            |            |
|------------|------------|------------|------------|-----------|------------|------------|------------|------------|------------|-----------|------------|------------|------------|------------|------------|
| Met<br>1   | Glu        | Val        | Lys        | Leu<br>5  | Glu        | Glu        | His        | Phe        | Asn<br>10  | Lys       | Thr        | Phe        | Val        | Thr<br>15  | Glu        |
| Asn        | Asn        | Thr        | Ala<br>20  | Ala       | Ser        | Gln        | Asn        | Thr<br>25  | Ala        | Ser       | Pro        | Ala        | Trp<br>30  | Glu        | Asp        |
| Tyr        | Arg        | Gly<br>35  | Thr        | Glu       | Asn        | Asn        | Thr<br>40  | Ser        | Ala        | Ala       | Arg        | Asn<br>45  | Thr        | Ala        | Phe        |
| Pro        | Val<br>50  | Trp        | Glu        | Asp       | Tyr        | Arg<br>55  | Gly        | Ser        | Val        | Asp       | Asp<br>60  | Leu        | Gln        | Tyr        | Phe        |
| Leu<br>65  | Ile        | Gly        | Leu        | Tyr       | Thr<br>70  | Phe        | Val        | Ser        | Leu        | Leu<br>75 | Gly        | Phe        | Met        | Gly        | Asn<br>80  |
| Leu        | Leu        | Ile        | Leu        | Met<br>85 | Ala        | Val        | Met        | Lys        | Lys<br>90  | Arg       | Asn        | Gln        | Lys        | Thr<br>95  | Thr        |
| Val        | Asn        | Phe        | Leu<br>100 | Ile       | Gly        | Asn        | Leu        | Ala<br>105 | Phe        | Ser       | Asp        | Ile        | Leu<br>110 | Val        | Val        |
| Leu        | Phe        | Cys<br>115 | Ser        | Pro       | Phe        | Thr        | Leu<br>120 | Thr        | Ser        | Val       | Leu        | Leu<br>125 | Asp        | Gln        | Trp        |
| Met        | Phe<br>130 | Gly        | Lys        | Ala       | Met        | Cys<br>135 | His        | Ile        | Met        | Pro       | Phe<br>140 | Leu        | Gln        | Cys        | Val        |
| Ser<br>145 | Val        | Leu        | Val        | Ser       | Thr<br>150 | Leu        | Ile        | Leu        | Ile        | Ser       | Ile<br>155 | Ala        | Ile        | Val        | Arg<br>160 |
| Tyr        | His        | Met        | Ile<br>165 | Lys       | His        | Pro        | Ile        | Ser        | Asn<br>170 | Asn       | Leu        | Thr        | Ala        | Asn<br>175 | His        |
| Gly        | Tyr        | Phe<br>180 | Leu        | Ile       | Ala        | Thr        | Val        | Trp<br>185 | Thr        | Leu       | Gly        | Phe        | Ala<br>190 | Ile        | Cys        |
| Ser        | Pro        | Phe<br>195 | Pro        | Val       | Phe        | His        | Ser<br>200 | Leu        | Val        | Glu       | Leu        | Lys<br>205 | Glu        | Thr        | Phe        |
| Gly<br>210 | Ser        | Ala        | Leu        | Leu       | Ser        | Ser<br>215 | Lys        | Tyr        | Leu        | Cys       | Val<br>220 | Glu        | Ser        | Trp        | Pro        |
| Ser<br>225 | Asp        | Ser        | Tyr        | Arg       | Ile<br>230 | Ala        | Phe        | Thr        | Ile        | Ser       | Leu<br>235 | Leu        | Leu        | Val        | Gln<br>240 |
| Tyr        | Ile        | Leu        | Pro<br>245 | Leu       | Val        | Cys        | Leu        | Thr        | Val<br>250 | Ser       | His        | Thr        | Ser        | Val<br>255 | Cys        |
| Arg        | Ser        | Ile<br>260 | Ser        | Cys       | Gly        | Leu        | Ser        | His<br>265 | Lys        | Glu       | Asn        | Arg        | Leu<br>270 | Glu        | Glu        |
| Asn        | Glu        | Met<br>275 | Ile        | Asn       | Leu        | Thr        | Leu<br>280 | His        | Pro        | Ser       | Lys        | Lys<br>285 | Ser        | Arg        | Asp        |
| Gln<br>290 | Ala        | Lys        | Pro        | Pro       | Ser        | Thr<br>295 | Gln        | Lys        | Trp        | Ser       | Tyr<br>300 | Ser        | Phe        | Ile        | Arg        |

Lys His Arg Arg Arg Tyr Ser Lys Lys Thr Ala Cys Val Leu Pro Ala  
 305 310 315 320  
 Pro Ala Gly Pro Ser Gln Glu Lys His Leu Thr Val Pro Glu Asn Pro  
 325 330 335  
 Gly Ser Val Arg Ser Gln Leu Ser Pro Ser Ser Lys Val Ile Pro Gly  
 340 345 350  
 Val Pro Ile Cys Phe Glu Val Lys Pro Glu Glu Ser Ser Asp Ala Gln  
 355 360 365  
 Glu Met Arg Val Lys Arg Ser Leu Thr Arg Ile Lys Lys Arg Ser Arg  
 370 375 380  
 Ser Val Phe Tyr Arg Leu Thr Ile Leu Ile Leu Val Phe Ala Val Ser  
 385 390 395 400  
 Trp Met Pro Leu His Val Phe His Val Val Thr Asp Phe Asn Asp Asn  
 405 410 415  
 Leu Ile Ser Asn Arg His Phe Lys Leu Val Tyr Cys Ile Cys His Leu  
 420 425 430  
 Leu Gly Met Met Ser Cys Cys Leu Asn Pro Ile Leu Tyr Gly Phe Leu  
 435 440 445  
 Asn Asn Gly Ile Gln Arg Asp Leu Gln Phe Phe Phe Asn Phe Cys Asp  
 450 455 460  
 Phe Arg Ser Arg Asp Asp Asp Tyr Glu Thr Ile Ala Met Ser Thr Met  
 465 470 475 480  
 His Thr Asp Val Ser Lys Thr Ser Leu Lys Gln Ala Ser Pro Val Ala  
 485 490 495  
 Phe Lys Lys Ile Ser Met Asn Asp Asn Glu Lys Val  
 500 505

<210> 23  
 <211> 352  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Y1/Y5 CHIMERA

<400> 23  
 Met Asp Val Leu Phe Phe His Gln Asp Ser Ser Met Glu Phe Lys Leu  
 1 5 10 15  
 Glu Glu His Phe Asn Lys Thr Phe Val Thr Glu Asn Asn Thr Ala Ala  
 20 25 30  
 Ala Arg Asn Ala Ala Phe Pro Ala Trp Glu Asp Tyr Arg Gly Ser Val

35

40

45

Asp Asp Leu Gln Tyr Phe Leu Ile Gly Leu Tyr Thr Phe Val Ser Leu  
50 55 60

Leu Gly Phe Met Gly Asn Leu Leu Ile Leu Met Ala Val Met Lys Lys  
65 70 75 80

Arg Asn Gln Lys Thr Thr Val Asn Phe Leu Ile Gly Asn Leu Ala Phe  
85 90 95

Ser Asp Ile Leu Val Val Leu Phe Cys Ser Pro Phe Thr Leu Thr Ser  
100 105 110

Val Leu Leu Asp Gln Trp Met Phe Gly Lys Ala Met Cys His Ile Met  
115 120 125

Pro Phe Leu Gln Cys Val Ser Val Leu Val Ser Thr Leu Ile Leu Ile  
130 135 140

Ser Ile Ala Ile Val Arg Tyr His Met Ile Lys His Pro Ile Ser Asn  
145 150 155 160

Asn Leu Thr Ala Asn His Gly Tyr Phe Leu Ile Ala Thr Val Trp Thr  
165 170 175

Leu Gly Phe Ala Ile Cys Ser Pro Leu Pro Val Phe His Ser Leu Val  
180 185 190

Glu Leu Lys Glu Thr Phe Gly Ser Ala Leu Leu Ser Ser Lys Tyr Leu  
195 200 205

Cys Val Glu Ser Trp Pro Ser Asp Ser Tyr Arg Ile Ala Phe Thr Ile  
210 215 220

Ser Leu Leu Leu Val Gln Tyr Ile Leu Pro Leu Val Cys Leu Thr Val  
225 230 235 240

Ser His Thr Ser Val Cys Ile Arg Leu Lys Arg Arg Asn Asn Met Met  
245 250 255

Asp Lys Ile Arg Asp Ser Lys Tyr Arg Ser Ser Arg Ser Arg Ser Val  
260 265 270

Phe Tyr Arg Leu Thr Ile Leu Ile Leu Val Phe Ala Val Ser Trp Met  
275 280 285

Pro Leu His Val Phe His Val Val Thr Asp Phe Asn Asp Asn Leu Ile  
290 295 300

Ser Asn Arg His Phe Lys Leu Val Tyr Cys Ile Cys His Leu Leu Gly  
305 310 315 320

Met Met Ser Cys Cys Leu Asn Pro Ile Leu Tyr Gly Phe Leu Asn Asn  
325 330 335

Gly Ile Lys Ala Asp Leu Arg Ala Leu Ile His Cys Leu His Met Ser

&lt;210&gt; 24

&lt;211&gt; 499

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence:Y1/Y5 CHIMERA

&lt;400&gt; 24

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Val | Leu | Phe | Phe | His | Gln | Asp | Ser | Ser | Met | Glu | Phe | Lys | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Glu | His | Phe | Asn | Lys | Thr | Phe | Val | Thr | Glu | Asn | Asn | Thr | Ala | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Arg | Asn | Ala | Ala | Phe | Pro | Ala | Trp | Glu | Asp | Tyr | Arg | Gly | Ser | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Asp | Leu | Gln | Tyr | Phe | Leu | Ile | Gly | Leu | Tyr | Thr | Phe | Val | Ser | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Gly | Phe | Met | Gly | Asn | Leu | Leu | Ile | Leu | Met | Ala | Val | Met | Lys | Lys |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Asn | Gln | Lys | Thr | Thr | Val | Asn | Phe | Leu | Ile | Gly | Asn | Leu | Ala | Phe |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Asp | Ile | Leu | Val | Val | Leu | Phe | Cys | Ser | Pro | Phe | Thr | Leu | Thr | Ser |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Leu | Leu | Asp | Gln | Trp | Met | Phe | Gly | Lys | Ala | Met | Cys | His | Ile | Met |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Phe | Leu | Gln | Cys | Val | Ser | Val | Leu | Val | Ser | Thr | Leu | Ile | Leu | Ile |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Ile | Ala | Ile | Val | Arg | Tyr | His | Met | Ile | Lys | His | Pro | Ile | Ser | Asn |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Leu | Thr | Ala | Asn | His | Gly | Tyr | Phe | Leu | Ile | Ala | Thr | Val | Trp | Thr |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Gly | Phe | Ala | Ile | Cys | Ser | Pro | Leu | Pro | Val | Phe | His | Ser | Leu | Val |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Leu | Lys | Glu | Thr | Phe | Gly | Ser | Ala | Leu | Leu | Ser | Ser | Lys | Tyr | Leu |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Val | Glu | Ser | Trp | Pro | Ser | Asp | Ser | Tyr | Arg | Ile | Ala | Phe | Thr | Ile |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |

Ser Leu Leu Leu Val Gln Tyr Ile Leu Pro Leu Val Cys Leu Thr Val  
 225 230 235 240  
 Ser His Thr Ser Val Cys Arg Ser Ile Ser Cys Gly Leu Ser His Lys  
 245 250 255  
 Glu Asn Arg Leu Glu Glu Asn Glu Met Ile Asn Leu Thr Leu Gln Pro  
 260 265 270  
 Ser Lys Lys Ser Arg Asn Gln Ala Lys Thr Pro Ser Thr Gln Lys Trp  
 275 280 285  
 Ser Tyr Ser Phe Ile Arg Lys His Arg Arg Arg Tyr Ser Lys Lys Thr  
 290 295 300  
 Ala Cys Val Leu Pro Ala Pro Ala Gly Pro Ser Gln Gly Lys His Leu  
 305 310 315 320  
 Ala Val Pro Glu Asn Pro Ala Ser Val Arg Ser Gln Leu Ser Pro Ser  
 325 330 335  
 Ser Lys Val Ile Pro Gly Val Pro Ile Cys Phe Glu Val Lys Pro Glu  
 340 345 350  
 Glu Ser Ser Asp Ala His Glu Met Arg Val Lys Arg Ser Ile Thr Arg  
 355 360 365  
 Ile Lys Lys Arg Ser Arg Ser Val Phe Tyr Arg Leu Thr Ile Leu Ile  
 370 375 380  
 Leu Val Phe Ala Val Ser Trp Met Pro Leu His Val Phe His Val Val  
 385 390 395 400  
 Thr Asp Phe Asn Asp Asn Leu Ile Ser Asn Arg His Phe Lys Leu Val  
 405 410 415  
 Tyr Cys Ile Cys His Leu Leu Gly Met Met Ser Cys Cys Leu Asn Pro  
 420 425 430  
 Ile Leu Tyr Gly Phe Leu Asn Asn Gly Ile Lys Gln Arg Asp Leu Gln  
 435 440 445  
 Phe Phe Phe Asn Phe Cys Asp Phe Arg Ser Arg Asp Asp Asp Tyr Glu  
 450 455 460  
 Thr Ile Ala Met Ser Thr Met His Thr Asp Val Ser Lys Thr Ser Leu  
 465 470 475 480  
 Lys Gln Ala Ser Pro Val Ala Phe Lys Lys Ile Ser Met Asn Asp Asn  
 485 490 495  
 Glu Lys Ile

<210> 25  
 <211> 395



Phe Tyr Arg Leu Thr Ile Leu Ile Leu Val Phe Ala Val Ser Trp Met  
275 280 285

Pro Leu His Val Phe His Val Val Thr Asp Phe Asn Asp Asn Leu Ile  
290 295 300

Ser Asn Arg His Phe Lys Leu Val Tyr Cys Ile Cys His Leu Leu Gly  
305 310 315 320

Met Met Ser Cys Cys Leu Asn Pro Ile Leu Tyr Gly Phe Leu Asn Asn  
325 330 335

Gly Ile Lys Gln Arg Asp Leu Gln Phe Phe Phe Asn Phe Cys Asp Phe  
340 345 350

Arg Ser Arg Asp Asp Asp Tyr Glu Thr Ile Ala Met Ser Thr Met His  
355 360 365

Thr Asp Val Ser Lys Thr Ser Leu Lys Gln Ala Ser Pro Val Ala Phe  
370 375 380

Lys Lys Ile Ser Met Asn Asp Asn Glu Lys Ile  
385 390 395

<210> 26

<211> 341

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Y1/Y5 CHIMERA

<400> 26

Met Gly Ser Glu Ile Pro Asp Tyr Tyr Asn Lys Thr Leu Ala Ser Glu  
1 5 10 15

Asn Asn Thr Val Ala Thr Arg Asn Ser Gly Phe Pro Val Trp Glu Asp  
20 25 30

Tyr Lys Gly Ser Val Asp Asp Leu Gln Tyr Phe Leu Ile Gly Leu Tyr  
35 40 45

Thr Phe Val Ser Leu Leu Gly Phe Met Gly Asn Leu Leu Ile Leu Met  
50 55 60

Ala Val Met Arg Lys Arg Asn Gln Lys Thr Thr Val Asn Phe Leu Ile  
65 70 75 80

Gly Asn Leu Ala Phe Ser Asp Ile Leu Val Val Leu Phe Cys Ser Pro  
85 90 95

Phe Thr Leu Thr Ser Val Leu Leu Asp Gln Trp Met Phe Gly Lys Val  
100 105 110

Met Cys His Ile Met Pro Phe Leu Gln Cys Val Thr Val Leu Val Ser

| 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Leu | Ile | Leu | Ile | Ser | Ile | Ala | Ile | Val | Arg | Tyr | His | Met | Ile | Lys |
| 130 |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| His | Pro | Val | Ser | Asn | Asn | Leu | Thr | Ala | Asn | His | Gly | Tyr | Phe | Leu | Ile |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |
| Ala | Thr | Val | Trp | Thr | Leu | Gly | Leu | Ala | Ile | Cys | Ser | Pro | Leu | Pro | Val |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Phe | His | Ser | Leu | Val | Glu | Leu | Gln | Glu | Ser | Phe | Gly | Ser | Ala | Trp | Leu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Ser | Arg | Tyr | Leu | Cys | Val | Glu | Ser | Trp | Pro | Ser | Asp | Ser | Tyr | Arg |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ile | Ala | Phe | Thr | Ile | Ser | Leu | Leu | Leu | Val | Gln | Tyr | Ile | Leu | Pro | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Val | Cys | Leu | Thr | Val | Ser | His | Thr | Ser | Val | Cys | Ile | Arg | Leu | Lys | Arg |
| 225 |     |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |
| Arg | Asn | Asn | Met | Met | Asp | Lys | Met | Arg | Asp | Asn | Lys | Tyr | Arg | Ser | Ser |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Ser | Arg | Ser | Val | Phe | Tyr | Arg | Leu | Thr | Val | Leu | Ile | Leu | Val | Phe |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Ala | Val | Ser | Trp | Met | Pro | Leu | His | Leu | Phe | His | Val | Val | Thr | Asp | Phe |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Asn | Asp | Asn | Leu | Ile | Ser | Asn | Arg | His | Phe | Lys | Leu | Val | Tyr | Cys | Ile |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Cys | His | Leu | Leu | Gly | Met | Met | Ser | Cys | Cys | Leu | Asn | Pro | Ile | Leu | Tyr |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gly | Phe | Leu | Asn | Asn | Gly | Ile | Lys | Ala | Asp | Leu | Met | Ser | Leu | Ile | His |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Cys | Leu | His | Val | Ser |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 340 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 27

<211> 383

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Y1/Y5 CHIMERA

<400> 27

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Ser | Glu | Ile | Pro | Asp | Tyr | Tyr | Asn | Lys | Thr | Leu | Ala | Ser | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |



Asn Asn Thr Val Ala Thr Arg Asn Ser Gly Phe Pro Val Trp Glu Asp  
 20 25 30  
 Tyr Lys Gly Ser Val Asp Asp Leu Gln Tyr Phe Leu Ile Gly Leu Tyr  
 35 40 45  
 Thr Phe Val Ser Leu Leu Gly Phe Met Gly Asn Leu Leu Ile Leu Met  
 50 55 60  
 Ala Val Met Arg Lys Arg Asn Gln Lys Thr Thr Val Asn Phe Leu Ile  
 65 70 75 80  
 Gly Asn Leu Ala Phe Ser Asp Ile Leu Val Val Leu Phe Cys Ser Pro  
 85 90 95  
 Phe Thr Leu Thr Ser Val Leu Leu Asp Gln Trp Met Phe Gly Lys Val  
 100 105 110  
 Met Cys His Ile Met Pro Phe Leu Gln Cys Val Thr Val Leu Val Ser  
 115 120 125  
 Thr Leu Ile Leu Ile Ser Ile Ala Ile Val Arg Tyr His Met Ile Lys  
 130 135 140  
 His Pro Val Ser Asn Asn Leu Thr Ala Asn His Gly Tyr Phe Leu Ile  
 145 150 155 160  
 Ala Thr Val Trp Thr Leu Gly Leu Ala Ile Cys Ser Pro Leu Pro Val  
 165 170 175  
 Phe His Ser Leu Val Glu Leu Gln Glu Ser Phe Gly Ser Ala Trp Leu  
 180 185 190  
 Ser Ser Arg Tyr Leu Cys Val Glu Ser Trp Pro Ser Asp Ser Tyr Arg  
 195 200 205  
 Ile Ala Phe Thr Ile Ser Leu Leu Leu Val Gln Tyr Ile Leu Pro Leu  
 210 215 220  
 Val Cys Leu Thr Val Ser His Thr Ser Val Cys Ile Arg Leu Lys Arg  
 225 230 235 240  
 Arg Asn Asn Met Met Asp Lys Met Arg Asp Asn Lys Tyr Arg Ser Ser  
 245 250 255  
 Arg Ser Arg Ser Val Phe Tyr Arg Leu Thr Val Leu Ile Leu Val Phe  
 260 265 270  
 Ala Val Ser Trp Met Pro Leu His Leu Phe His Val Val Thr Asp Phe  
 275 280 285  
 Asn Asp Asn Leu Ile Ser Asn Arg His Phe Lys Leu Val Tyr Cys Ile  
 290 295 300  
 Cys His Leu Leu Gly Met Met Ser Cys Cys Leu Asn Pro Ile Leu Tyr  
 305 310 315 320

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Gly Phe Leu Asn Asn Gly Ile Gln Arg Asp Leu Gln Phe Phe Phe Asn  
325 330 335  
Phe Cys Asp Phe Arg Ser Arg Asp Asp Asp Tyr Glu Val Ile Ala Met  
340 345 350  
Ser Thr Met His Thr Asp Val Ser Lys Thr Ser Leu Lys Gln Ala Ser  
355 360 365  
Pro Val Ala Leu Lys Lys Ile His Ser Asp Asp Asn Glu Lys Ile  
370 375 380

<210> 28  
<211> 21  
<212> DNA  
<213> Homo sapiens

<400> 28  
ttttggttgc tgacaaatgt c 21

<210> 29  
<211> 26  
<212> DNA  
<213> Homo sapiens

<400> 29  
ccttggtaaa cagtgagaat tattac 26

<210> 30  
<211> 455  
<212> PRT  
<213> Cercopithecus aethiops

<400> 30  
Met Ser Phe Tyr Ser Lys Gln Asp Tyr Asn Met Asp Leu Glu Leu Asp  
1 5 10 15

Glu Tyr Tyr Asn Lys Thr Leu Ala Thr Glu Asn Asn Thr Ala Ala Thr  
20 25 30

Arg Asn Ser Asp Phe Pro Val Trp Asp Asp Tyr Lys Ser Ser Val Asp  
35 40 45

Asp Leu Gln Tyr Phe Leu Ile Gly Leu Tyr Thr Phe Val Ser Leu Leu  
50 55 60

Gly Phe Met Gly Asn Leu Leu Ile Leu Met Ala Leu Met Lys Lys Arg  
65 70 75 80

Asn Gln Lys Thr Thr Val Asn Phe Leu Ile Gly Asn Leu Ala Phe Ser  
85 90 95

Asp Ile Leu Val Val Leu Phe Cys Ser Pro Phe Thr Leu Thr Ser Val  
100 105 110

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Leu | Asp | Gln | Trp | Met | Phe | Gly | Lys | Val | Met | Cys | His | Ile | Met | Pro |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Leu | Gln | Cys | Val | Ser | Val | Leu | Val | Ser | Thr | Leu | Ile | Leu | Ile | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ile | Ala | Ile | Val | Arg | Tyr | His | Met | Ile | Lys | His | Pro | Ile | Ser | Asn | Asn |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Thr | Ala | Asn | His | Gly | Tyr | Phe | Leu | Ile | Ala | Thr | Val | Trp | Thr | Leu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gly | Phe | Ala | Ile | Cys | Ser | Pro | Leu | Pro | Val | Phe | His | Ser | Leu | Val | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Gln | Glu | Thr | Phe | Gly | Ser | Ala | Leu | Leu | Ser | Ser | Arg | Tyr | Leu | Cys |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Val | Glu | Ser | Trp | Pro | Ser | Asp | Ser | Tyr | Arg | Ile | Ala | Phe | Thr | Ile | Ser |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Leu | Leu | Val | Gln | Tyr | Ile | Leu | Pro | Leu | Val | Cys | Leu | Thr | Val | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| His | Thr | Ser | Val | Cys | Arg | Ser | Ile | Ser | Cys | Gly | Leu | Ser | Asn | Lys | Glu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Asn | Arg | Leu | Glu | Glu | Asn | Glu | Met | Ile | Asn | Leu | Thr | Leu | His | Pro | Ser |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Arg | Lys | Ile | Gly | Pro | Gln | Val | Lys | Leu | Ser | Gly | Ser | His | Lys | Trp | Ser |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Tyr | Ser | Phe | Ile | Lys | Lys | His | Arg | Arg | Arg | Tyr | Ser | Lys | Lys | Thr | Ala |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Cys | Val | Leu | Pro | Ala | Pro | Glu | Arg | Pro | Ser | Gln | Glu | Asn | His | Ser | Arg |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Ile | Leu | Pro | Glu | Asn | Phe | Gly | Ser | Val | Arg | Ser | Gln | Leu | Ser | Ser | Ser |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ser | Lys | Phe | Ile | Pro | Gly | Val | Pro | Thr | Cys | Phe | Glu | Ile | Lys | Pro | Glu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Glu | Asn | Ser | Asp | Val | His | Glu | Leu | Arg | Val | Lys | Arg | Ser | Val | Thr | Arg |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ile | Lys | Lys | Arg | Ser | Arg | Ser | Val | Phe | Tyr | Arg | Leu | Thr | Ile | Leu | Ile |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Leu | Val | Phe | Ala | Val | Ser | Trp | Met | Pro | Leu | His | Leu | Phe | His | Val | Val |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Thr | Asp | Phe | Asn | Asp | Asn | Leu | Ile | Ser | Asn | Arg | His | Phe | Lys | Leu | Val |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |

Tyr Cys Ile Cys His Leu Leu Gly Met Met Ser Cys Cys Leu Asn Pro  
 420 425 430

Ile Leu Tyr Gly Phe Leu Asn Asn Gly Ile Lys Ala Asp Leu Met Ser  
 435 440 445

Leu Ile His Cys Leu His Met  
 450 455

<210> 31  
 <211> 1406  
 <212> DNA  
 <213> Cercopithecus aethiops

<400> 31  
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 tgatgaatat tataacaaga cacttgccac agagaataat actgctgcca ctcggaattc 120  
 tgatttccca gtctgggatg actataaaaag cagtgtagat gaattacagt attttctgat 180  
 tgggctctat acatttgtaa gtcttcttgg ctttatgggg aattttactta ttttaattggc 240  
 tctcatgaaa aagcgtaatc agaagactac ggtaaaacttc cttataggaa atctggcctt 300  
 ttctgacatc ttggttgtgc tgttttgcct acctttcaca ctgacgtctg tcttgctgga 360  
 tcagtggatg tttggcaaag tcatgtgcca tattatgcct tttctgcaat gtgtgtcagt 420  
 tttggtttca actttaattt taatatcaat tgccattgtc aggtatcata tgataaaaca 480  
 tcccatctct aataatttaa cagcaaacca tggctacttt ctgatagcta ctgtctggac 540  
 actagggttt gccatctgtt ctccccttcc agtgtttcac agtcttgtgg aacttcaaga 600  
 aacatttggt tcagcgttgc tgagcagcag gtattttatgt gttgagtcac ggccatctga 660  
 ttcatacaga attgccttta ctatctcttt attgctagtt cagtatatct tgccttagt 720  
 ttgtcttact gtaagtcata caagtgtctg cagaagcata agctgtggat tgtccaacaa 780  
 agaaaacaga cttgaagaaa acgagatgat caacttaact ctccatccat ctagaaagat 840  
 tgggcctcag gtgaaactct ctggcagcca taaatggagt tattcattca tcaaaaaaca 900  
 cagaaggaga tatagcaaga agacagcatg tgtgttacct gctccagaaa gaccttctca 960  
 agagaaccac tccagaatac ttccagaaaa ctttggctct gtaagaagtc agctctcttc 1020  
 atccagtaag ttcataccag gggccccac ttgctttgaa ataaaaacctg aagaaaattc 1080  
 agatgttcat gaattgagag taaaaacgtt tgttacaaga ataaaaaaga gatctcgaag 1140  
 tgttttctac aggcagacca tactgatact agtatattgt gttagttgga tgccactaca 1200  
 ctttttccat gtggtaaactg attttaatga caatcttatt tcaaataggc atttcaagtt 1260  
 ggtgtattgc atttgtcatt tgttgggcat gatgtcctgt tgtcttaatc caattctgta 1320  
 tggatttctt aataatggga ttaaagctga tttaatgtct cttatacact gtcttcatat 1380  
 gtaataattc tcaactgttta ccaagg 1406